

What is claimed is:

1 1. A telephone subscriber call signal control device for calling
2 a telephone set connected to a subscriber circuit by means of a ringing
3 signal when an incoming call is outputted from a subscriber circuit
4 terminating device wherein:

5 said subscriber circuit terminating device comprises:

6 a zero crossing point detection circuit for generating a zero
7 crossing point synchronization signal synchronous with a zero potential
8 of said ringing signal, and an order output timing adjustment circuit
9 for adjusting output timing of a ringing control order for controlling
10 a ringing relay of said subscriber circuit synchronously with the zero
11 crossing point synchronization signal, and

12 said telephone set is called by said ringing signal through said
13 subscriber circuit synchronously with said zero crossing point
14 synchronization signal in accordance with reception of an order to
15 output a command to turn on said ringing relay from an order output
16 device connected to said subscriber terminating device.

1 2. A telephone subscriber call signal control device according to
2 claim 1, wherein

3 said subscriber circuit terminating device comprises an order
4 buffering section specifying said subscriber circuit ringing said
5 ringing signal in accordance with the reception of the order from said
6 order output device, provided for said subscriber circuit and taking
7 timing by delaying said order reception signal.

1 3. A subscriber circuit terminating device, including a ringing
2 signal transmission device, for supplying a ringing signal to a

subscriber circuit, comprising:

a zero crossing point detection circuit generating a zero crossing point synchronization signal synchronous with a zero potential of said ringing signal;

an order output timing adjustment circuit adjusting output timing of a ringing control order controlling a ringing relay of said subscriber circuit synchronously with said zero crossing point synchronization signal; and an order development circuit inputting an order reception signal from an order output device and analyzing said order reception signal, wherein

a telephone set is called by said ringing signal through said subscriber circuit synchronized with said zero crossing point synchronization signal by said order output timing adjustment circuit in accordance with the order reception signal from said order output device.

4. A subscriber circuit terminating device according to claim 3, wherein

said order output timing adjustment circuit comprises:

an order drop circuit specifying said subscriber circuit in response to said order reception signal analyzed by said order development circuit, and outputting said order reception signal to the subscriber circuit;

an order buffering section temporarily storing said order reception signal; and

an order output control circuit controlling timing of said order reception signal synchronously with said zero crossing point synchronization signal.

Figure 1 illustrates the four types of interlocking in a 2D hexagonal lattice. The diagrams are labeled (a) through (d). Each diagram shows a central hexagon surrounded by its six nearest neighbors. (a) shows a single hexagon with its six neighbors. (b) shows a hexagon with its six neighbors, with one neighbor highlighted in red. (c) shows a hexagon with its six neighbors, with one neighbor highlighted in red and one neighbor highlighted in blue. (d) shows a hexagon with its six neighbors, with one neighbor highlighted in red and one neighbor highlighted in blue.

4 a plurality of said order buffering sections and a plurality
5 of said order output control circuits are provided, each of the number
6 of said order buffering sections and the number of said order output
7 control circuits is greater than the number of said subscriber circuits.

1 6. A subscriber circuit terminating device according to claim 4,
2 wherein

3 said order drop circuit, said order buffering section and said
4 order output control circuit are constituted out of one LSI circuit.